

City of Corvallis - Phase 2 Report

Sustainability Recommendations

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Zero Waste Alliance

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Executive summary

This report summarizes our findings for Phase 2 of the Sustainability Assessment. It includes the recommendations for action. For information on the assessment approach and limitations, please see the Phase 1 report.

The Zero Waste team, with significant input from Corvallis staff members, has uncovered a number of high-value opportunities to further Corvallis' sustainability efforts. Our contract specified that we should not only identify areas needing action but also provide associated costs. This has led us to include in our recommendations possible ways of achieving the objectives. These approaches should be viewed as ideas, not dictates, about how to proceed. The following summarizes our top recommendations for action. While we were asked to focus on our assessment on internal actions, we felt it necessary to also include longer-term recommendations for external action. These can be found in Appendix F.

City-wide recommendations

Most of these recommendations are designed to develop the infrastructure (structures and systems) to support the City's sustainability efforts. Many of these have no direct costs, but they do require a commitment of staff time. In some cases, free resources are available in the community to help implement these ideas. (For example, in Portland a group funded by outside sources provides free waste audit services; Corvallis may have something similar. The Energy Trust provides free energy audits around the State.) Where appropriate, we have included a suggested budget for such direct costs as consultant services, an amount that we think is adequate but not extravagant for the City's needs. Many of the time estimates have been provided by Steering Committee members.

2005/06 Initiatives

Based on an analysis of the City's largest impacts, the Steering Committee selected three goal areas to focus on for the remaining months in the current fiscal year:

- (Building) energy and associated greenhouse gases
- Transportation fuels and associated greenhouse gases
- Paper

We recommend that the Steering Committee engage their respective staff members in an exploration of what they can do to improve in all three areas in the next 6 months and measure the results. The Steering Committee envisions sharing these focus areas with all departments in January, soliciting input on the goals as

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well as possible actions. The hope would be to show some progress on these goals in the next sustainability report. See Appendix E for more information on these goals.

2006/07 Initiatives

1a. Refine a sustainability management system (Budget: \$7,000)

- Retain the Steering Committee and create a sustainability coordinator position
- Set City-wide sustainability goals (e.g., energy/fuels/greenhouse gases and paper) and expect each department to pursue one more dept-specific sustainability goal per year (in addition to the City-wide goals)
- Refine the Council Policy and framework
- Hone the business case for pursuing sustainability
- Improve the annual sustainability report (include metrics)
- Develop a list of internal experts on sustainability issues (e.g., toxics, energy)

2. Establish sustainable purchasing policies and practices

- Write a sustainable purchasing policy
- Provide methods for assessing the cost-benefit of sustainable options (esp. if they cost more)
- Provide boilerplate language for RFPs and contracts

3. Provide education and training on sustainability (Budget: \$6,000-12,000)

- Focus quarterly brown-bag presentations on sustainability goals
- Document existing projects (e.g., green buildings)
- Embed sustainability into employee orientation and other regular employee training and meetings
- Update City website to highlight sustainability actions

4. Formalize recycling efforts

- Create a policy on recycling
- Make recycling an official part of people's jobs or a service contract

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2007/08 Initiatives

1b. Refine a sustainability management system (cont.) (Budget: \$3,000)

- Link to existing resources (e.g., Endangered Species Plan, Natural Resource Plan)
- Embed sustainability into performance reviews for all employees. Develop guidance for supervisors to help them.
- Conduct a formal review of the sustainability management system

5. Focus on water conservation

- Conduct water audits of facilities
- Develop methods to track water use and feedback the information
- Create incentives for departments to conserve

6. Focus on waste reduction (Budget: \$2,000)

- Conduct waste audits
- Develop systems to collect data on waste generated and diverted material

7. Focus on toxics (Budget: \$7,000)

- Develop chemical management system
- Develop system for maintaining current Material Safety Data Sheets in all departments

8. Formalize and deploy green building policy (Budget: \$5,000)

- Write a green building policy
- Evaluate LEED-EB (a system for assessing existing buildings)
- Develop Operations and Maintenance procedure for buildings/ facilities
- Send staff to Building Operator Certificate (BOC) training

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Department-specific recommendations

Dept	Recommendations
City Manager's Office	<p>Develop methods to embed sustainability into performance reviews and job descriptions. Pilot with management team in 2006 (down to departmental Director's direct reports); roll out to all employees in 2007.</p> <p>Add sustainability sections in the Administrative Policies Manual and Employee Handbook.</p> <p>Develop a method for incorporating sustainability into policy reviews in the Administrative Policies Manual.</p> <p>Adopt a paperless Council Packet.</p> <p>Survey citizens on sustainability as part of the next Citizen's Attitude Survey.</p>
Community Development	<p>Move toward a paperless packet for Planning. Use more electronic tools for Planning Commission documents and online zoning maps.</p> <p>Cross train inspectors to multi-task to reduce trips and improve customer service.</p> <p>Investigate wireless links to submit inspector data (Estimated budget: \$1.5 million for community-wide Wi-Fi system).</p> <p>Choose fuel efficient vehicles and/or ones that can use alternative fuels.</p>
Finance	<p>Develop a centralized system for managing the end-of-life for computers. This may take the form of changes to purchasing, service agreements, contracting for recycling and/or a policy for end-of-life management.</p> <p>Continue installing radio-based water meters. (Cost saving opportunity)</p> <p>Switch to electronic billing and payments; where paper invoices are still needed, switch to 100% recycled content. (Already planned by Finance)</p> <p>Update replacement schedules to take into account sustainability impacts and cost savings. Replace equipment only when it is needed based on maintenance records, environmental impacts, and business need.</p>
Fire	<p>Investigate commissioning of green building (new Fire Station) to make sure it is operating as intended. (Budget: \$6,000-10,000)</p> <p>Partner with a student and/or the architect to write a case study on the new building. Promote green features prominently in the building through signage. Extend the lessons learned to other buildings.</p> <p>Consolidate trips for errands to save fuel. Make this a formalized process.</p> <p>Pilot video-conferencing for training to reduce travel.</p>
Library	<p>Leverage the library as a wireless hub, making it a meeting place for networking and events (Budget: Cost for wireless is included in the existing budget).</p> <p>Team with schools for exchanging unneeded supplies.</p>





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Parks and Recreation	<p>Pursue Salmon Safe certification to take the Integrated Vegetation and Pest Management program to the next level. Do housecleaning of existing chemical products (old paints, 2, 4-D, etc.)</p> <p>Refine an operations and maintenance manual to provide guidance for all site operations and maintenance activities. (recommended in Endangered Species Response Plan)</p> <p>Find alternative to painting ball field lines; provide chalking machines and make this a task for volunteers.</p> <p>Have non-profits in the community apply for the right to manage recyclables in the parks and keep the proceeds.</p> <p>Complete energy efficiency study in the Aquatic Center and analyze feasibility. (Capital budget: \$80,000-373,000)</p> <p>Partner with Public Works to pilot a chemical management system (see Public Works)</p>
Police	<p>Pilot test washable uniforms to eliminate dry cleaning; consider renegotiating this portion of the union contract so that the funds that have been used for dry cleaning could be redeployed to more mission-critical services.</p> <p>Consolidate refrigerators and buy an Energy Star model instead.</p> <p>Purchase fuel-efficient non-emergency vehicles and/or ones that can run on alternative fuels.</p>
Public Works	<p>Pilot more fully integrated sustainability management system. Include assessment audits, perhaps in conjunction with the safety committee checks. Use this experience to inform decisions by the Sustainability Steering Committee for City-wide sustainability integration. (Budget: \$5,000)</p> <p>Pursue EcoLogical Certification in the vehicle maintenance shop.</p> <p>Partner with Parks to develop and pilot a chemical management program. (Budget: \$10,000)</p> <p>Improve access to recycling bins in the Garage and Meter Shop and assess the use of them periodically.</p>

Recommendations for action

We share the following recommendations for actions in two areas: process related (changing how things are done) and project-related (specific actions with end-points). We list our assumptions of who would be responsible for each recommendation in parentheses. We also list estimated direct and hidden costs. Hidden costs include staff time. Realize that when employees are given meaningful challenges like these, somehow the time is found to do them while still getting the rest of the normal work done. Also, most of these should generate ideas that reduce costs and/or time invested in other areas. Corvallis would need to make the investment of time to uncover improvement opportunities but this investment should more than pay off over the long-term if priorities are chosen wisely.

We use the following symbols to characterize each recommendation:

	Quick action; takes a relatively small amount of time
	Requires a significant amount of staff time (but minimal direct costs)
	Requires significant investment to reap rewards
	Opportunity to save or make money

City-wide recommendations



1. Refine a sustainability management system

A sustainability management system (SMS) provides the infrastructure to manage a sustainability effort. See the Sustainability Map in the Phase 1 Report to see the common elements of an effective SMS. In general, these include:

- a clear statement of intent
- processes for setting priorities, implementing improvement projects and institutionalizing the lessons learned
- formal reviews and assessments of results and also the SMS itself
- connections to support systems so they are aligned with sustainability

These tend to evolve over time from ad hoc actions to systematic, integrated efforts. We see Corvallis needing to take these steps in the next two years.



Retain the Steering Committee and create a Sustainability Coordinator position (City Manager)— We formed a Steering Committee to help with the assessment. We recommend that the City Manager continue this team for a period of 2-3 years. The purpose of the Steering Committee would be to:

- Set sustainability priorities and goals
- Help transmit best practices across the organization
- Get sustainability embedded into the organization
- Refine a sustainability management system and associated metrics
- Build understand and enthusiasm for sustainability in the organization
- Provide a liaison to other sustainability-related groups in the area

At the end of the first year, the composition and operation of the Steering Committee should be reassessed and adjusted as appropriate. It may be possible to reduce the commitment of senior management. At the end of three years, the committee may sunset if it has integrated sustainability into the management systems of the organization.

One of the tasks that the Steering Committee can take on is to refine the work we did on developing a sustainability management system. This would help bring rigor and accountability to sustainability efforts. To date, most sustainability efforts have been completed in an ad hoc, uncoordinated way. There is significant value in being more intentional about sustainability efforts. In the Steering Committee

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meetings we ran, we began the process of setting priorities and finding ways to dovetail sustainability with existing management systems and processes. This work should be finalized.

Along with the Steering Committee, we believe it's important to create a formal Sustainability Coordinator role (most likely half- or full-time). To some degree, two individuals in Public Works have been acting in this role and together may represent about 40% of an FTE. Ideally, a Sustainability Coordinator would be placed in a department with overarching responsibilities (e.g., the City Manager's Office, Finance). However, it is preferable to assign this responsibility to someone who is passionate about sustainability rather than to assign it to someone who just happens to be in the right department. Depending on budget constraints, the City may choose to create a new, full-time position.

We have already forwarded to our key contacts at the City a number of job descriptions from other sustainability coordinators and also a salary study. We believe the sustainability coordinator position should contain at least these responsibilities:

- Chair or facilitate the Steering Committee—Plan meetings, manage the agendas, prepare materials for the meetings, facilitate the meetings.
- Manage and monitor the change process—keep a focus on sustainability, develop effective strategies for moving forward that fit the culture, priorities and constraints of the organization; help departments overcome barriers and resistance; provide consulting assistance to those who need it; look for and act on 'teachable moments'.
- Be a resource—Have a general knowledge of sustainability concepts, frameworks, issues, tools and resources; provide minor technical assistance and refer people to appropriate resources for complex technical needs.
- Inspire others—Develop enthusiasm and support for sustainability at all levels of the organization; provide mechanisms for teaching staff about relevant concepts, methods and tools.
- Draft documents—Create 'strawdog' versions of sustainability-related documents. This may include Council and Administrative Policies, Sustainability Implementation Plans, Sustainability Management System elements, checklists and job aids, as well as language for job descriptions, contracts, and performance reviews.
- Facilitate progress— Develop processes and tools that the Steering Committee and departments can use to set goals, implement plans and institutionalize learning. Provide assistance in using them.

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- Ensure the SMS is working—As the Steering Committee develops elements of a sustainability management system, ensure plans are completed, reviews are conducted, goals are enacted, etc.
- Communicate—This may include updating the City's website, writing articles for the Read and Recycle newsletters, speaking to groups internally and externally, being the primary contact for sustainability issues, ideas, and requests.
- Prepare the annual sustainability report—Develop a template for the sustainability report, solicit content, track sustainability metrics, produce the report and communicate results.



Choose City-wide and dept-specific sustainability goals (Steering Committee)—Corvallis departments have already undertaken a number of worthy sustainability actions. However, these appear as ad hoc actions, not within some context of what is most important or where Corvallis' major impacts lie. Through an impacts assessment (see the chart in Appendix A), the Steering Committee identified three areas that all departments could work toward improving in the near-term:

- Energy—Conserve energy (electricity and natural gas) and reduce greenhouse gas impacts associated with it (e.g., through Blue Sky purchases, carbon offsets)
- Transportation—Conserve fuels (e.g., through trip-reductions, more fuel-efficient vehicles) and reduce greenhouse gas impacts associated with it (e.g., increase use of biodiesel)
- Paper—Reduce the use of paper and increase recycled content of what is used; improve recycling rates.

We have mixed feelings about this last goal. The City is already doing a good job of buying 30% post-consumer paper and recycling office paper. So reducing paper consumption, while a good goal, may not provide the biggest impact. However, practically everyone can work on reducing paper, so its value may be in educating and involving all employees. This goal does engage paperwork-heavy departments that might otherwise feel somewhat removed from the sustainability program as they may not feel as if they have many sustainability impacts as compared to other departments.

We have provided suggestions for focus areas for the 2006/7 and 2007/8 timeframes. Introducing new focus areas should not be interpreted as stopping

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work on the earlier ones. This is much like spinning plates. One needs to get a few spinning at a time. Then it can be easy to add a couple more, going back to give the earlier plates a spin when they begin to wobble. Our plan, over a two and a half year period, is to introduce 10 focus areas (9 plus the ongoing work on the sustainability management system), a few at a time.

In addition to these City-wide goals, we recommend asking each department to set a department-specific goal related to sustainability. They should not be limited to the City-wide priorities. All of these goals should be set in context of a long-range sustainability plan. This plan should include clear sustainable end-points, interim goals, and metrics. See Appendix B for some preliminary work the Steering Committee did in this area.



Refine the Sustainability Policy/Framework—The Steering Committee asked us to recommend improvements to the Council's existing Sustainability Policy. The existing document is a good first step. However it contains the following inconsistencies:

- Greenhouse gases overlap with green building and waste
- Most policy areas are framed neutrally but green building is actually a solution
- The policy was intended to focus on internal City operations but land use is predominantly an external issue
- Other natural resources such as water are missing
- The policy contains a number of phrases that dilute a sense of commitment and lacks a clear statement of sustainable end-points, metrics and goals
- It focuses predominately on environmental issues, less so on social and economic (other than cost-related caveats)

We brought to the Steering Committee several different frameworks for understanding and managing sustainability. In the first Steering Committee meeting, we briefed them on The Natural Step, the triple bottom line, environmental management systems, the Hanford Principles, and mentioned others. More work still needs to be done in this area but the Steering Committee seemed to prefer the 'triple bottom line' framework: social, economic and environmental.

When organizations use the triple bottom line, it's important to help staff distinguish between what is considered sustainability and what is not. We recommend that the City define sustainability as efforts that acknowledge the interdependency across these three elements, and work to optimize them. So, for example, traditional economic development activities may not qualify for inclusion in

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the sustainability report; economic development that looks to maximize both social and environmental benefits would be included.

The Steering Committee needs to explore the ramifications of this choice and decide whether to dovetail the triple bottom line with any other framework. (See Appendix C for options and our commentary on them.)



Hone the understanding of the business case for sustainability (Council and Steering Committee)—While people acknowledge that sustainability is a good thing to do and the right thing to do, there does not appear to be any clearly communicated business case for Corvallis to pursue it. The Steering Committee members could not remember any clear statement of business case from the Council. They were able to generate some thoughts about a business case but these need to be refined:

- Long-term cost containment
- Efficiencies
- Economic sense, save money
- Helps to identify ongoing, continuing work, even when Council changes
- Create legacy for people who come after
- Close loops - use materials at end of their useful life

Without this, employees may not respond to requests to work on sustainability-related projects and goals. Without a strong business case, sustainability activities are likely to be the first thing that gets cut when resources get tight. However, in our view, sustainability is critical for the long-term health of the community. So we recommend that the management team and the Council hone their understanding of why sustainability is worth the attention. What benefits do they hope to gain? Are there certain aspects of sustainability that are most important for Corvallis? What are the risks of not pursuing sustainability? The Council and the management team need to communicate this business case to all employees. Are there emerging threats and opportunities that compel the City to pursue sustainability?

In the second Steering Committee meeting, we engaged in an exercise to look at worldwide trends (e.g., population growth, body burden, fisheries, forest, water, climate change) and asked how these trends might impact Corvallis. Out of this process, the Steering Committee thought the following trends best captured threats which could be the basis of a stronger business case: climate change, water, forests, nitrogen cycles, and fisheries (in particular, anadromous fish/salmon). We have provided the materials for this exercise to the City for its

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own use so the Steering Committee members can run this exercise or share the information in their departments.



Improve the information contained in the annual Sustainability Report (Steering Committee)—The two existing Sustainability Reports, which included listings of tasks that have been undertaken, were a good beginning but reflect the ad hoc nature of the implementation to date. Now that the Steering Committee has begun to set goals, the City should be able to strengthen future reports by including the context (why certain priorities were chosen) and trend data on sustainable metrics. Once the Steering Committee has settled on a framework, City-wide goals, and associated metrics, the next report can be organized around these elements. (See more about this in Appendix C.)



Develop a list of internal experts on sustainability issues (Steering Committee)—Sustainability is a broad field and no one person can be an expert in all areas. It would be helpful to put together a list of go-to people on various sustainability-related issues: recycling, energy conservation, toxic reduction, etc. The City may also want to include a list of external sustainability experts who are willing to provide free or low-cost assistance including advice, presentations and site visits (e.g., the Oregon Natural Step's coaching program, local businesses that are pursuing sustainability that provide services the City often purchases, Renewable Northwest Project, ICLEI.)



Link SMS to existing resources (Steering Committee)—In 2007, refine the SMS to provide clear links to existing documents and resources. These should include the Natural Features Inventory, the Stormwater Master Plan, Endangered Species Act Response Plan for salmon recovery efforts and the Land Development Code and Comprehensive Plan. Investigate opportunities to get greater sustainability benefits from these existing documents and processes. Using sustainability priorities and goals that may be established by the Steering Committee, we recommend reviewing ESA (Endangered Species Act) response plan Solution Options to identify and leverage opportunities in other areas such as water conservation, Parks and Recreation and Green Building.

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For example, the process used to develop the ESA response plan and specifically the Solution Options Matrix could be used to expand the City's sustainability efforts. A review of the proposed solutions section of the document describes a process to identify solution options, the justification for the solutions, the solution option refinement process, and the list of solution options. It details each solution and the impacts they are designed to address. These impacts can be cross-referenced with impacts that sustainability efforts are designed to address.

Reference

<http://www.ci.corvallis.or.us/index.php?option=content&task=view&id=1686&Itemid=1990>



Embed sustainability into performance reviews for all employees—

In 2006, we are recommending embedding sustainability into all managers' performance reviews (from the City Manager down to the departmental directors' direct reports). In 2007, we recommend extending that practice to all employees. It will be helpful to develop guidance for supervisors to help them have those conversations with employees.

Resources

AXIS developed a process for Washington Dept. of Ecology to help managers and employees understand how to embed sustainability into their everyday jobs. This work could be the basis of support materials.

For ideas about how to overcome common obstacles, see also the article, "Growing into Sustainability" by Marsha Willard (www.pacifier.com/~axis/S17stages.html)



Conduct a formal review of the sustainability management system—At the end of the year, conduct a formal review or 'audit' of the sustainability management system to see if it is working as intended, if people are following the new procedures and policies, and to identify improvements for future iterations. This can be informed by the pilot effort undertaken by Public Works to test more rigorous sustainability management system methods.

Direct Costs: We recommend budgeting \$10,000 for consulting support for two years. This can include facilitation of Steering Committee meetings as needed, consultations on sustainability management systems, etc.

Hidden Costs: For 2006, this represents approx. 432 work hours (assumes 18 Steering Committee members and monthly 2-hour meetings). This represents approximately 1 percent of each person's time or approximately 20% of an FTE. In the second year, the Steering Committee might be able to cut the time in half, perhaps as a result of restructuring the Steering Committee.

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2. Establish sustainable purchasing policies and practices

Purchasing represents one of the best current opportunities for Corvallis to improve its sustainability performance. Many people within the organization have the passion to integrate sustainability into their purchasing decisions but they lack information about more sustainable options and guidance on when or whether to pay more for a sustainable option.

While purchasing is decentralized in Corvallis, a number of good systems are in place that can dovetail with sustainability. It should be a rather easy matter to embed sustainability criteria into Corvallis' existing purchasing processes. We recommend the following as next steps.



Write a sustainable purchasing policy (Steering Committee)—Create a purchasing policy that clarifies the City's intent. Are there required criteria for certain products (e.g., 30% recycled content paper or LEED Silver for new construction)? Is there a slight premium the City is willing to pay for more sustainable options? When the sustainable option is too expensive, what other actions could be taken (e.g., develop a collaborative purchasing arrangement with other organizations to reduce costs)?

Resources for Sustainable Purchasing

The New American Dream website (www.newdream.org) has a host of boilerplate language for purchasing policies, contracts and RFP's.

King County (www.metrokc.gov/procure/green/) also has boilerplate language and provides case studies of certain products.

Many vendors have systems to help identify the more sustainable options (e.g., Staples for office products, Coastwide for cleaning products).

Co-op America publishes the Green Pages of vendors with greener products.

The Sustainable Purchasing Products Coalition is based in Portland. They are working on life cycle assessments for various products (www.sppcoalition.org).

The regional Pollution Prevention Resource Center has resources for sustainable purchasing.

AXIS publishes two inexpensive Sustainability Series™ how-to booklets related to this topic: Choosing Greener Products and Partnering with Vendors (www.pacifier.com/~axis/sust_series.html)

The Oregon Natural Step Network offers training on sustainable purchasing periodically.

There are a number of certification schemes that can be used as a selection criteria: Green Seal, Forest Stewardship Council, Marine Stewardship Council, LEED for existing buildings, etc.

The October 2005 issue of Government Procurement Magazine published an article featuring the King County Environmental Purchasing Program, entitled "Green Purchasing - Leading by Example." <http://www.govpro.com/Newsletters/Images/1005King.pdf>

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Provide methods for assessing the cost-benefit of sustainable options (especially, if they cost more)—There are a number of different ways to assess the complex trade-offs associated with sustainability. Two of the more useful are weighted criteria charts and the SD Solutions cost/benefit analysis spearheaded by Scott Dethloff and Paul Burnet at CH2M Hill. Corvallis should develop two or three methods, one that is useful for small budget items and another more rigorous one for expensive capital projects. We piloted a similar process as part of our project. See the Aquatic Center Analysis in the Appendix D.



Provide boilerplate language for RFPs and contracts—The City may still want to choose the least cost option or access services performed by disabled people, but that does not prevent the City from setting sustainability performance criteria in the RFP. The City can specify, for example, that they want green cleaning products used as part of janitorial services, or a building built to LEED Silver standard with at least 90% of the construction waste reused /recycled, or a hauler that will help the City improve its recycling rates. It is also possible to make sustainability one of several selection criteria, assigning a moderate level of points for firms that demonstrate sustainable business practices. Don't underestimate the power of just mentioning sustainability in RPF's and contracts; this can have a significant ripple effect. However to help employees, the City could collect boilerplate language. For criteria City employees would want used in many situations, embed that language into the standard service contracts and RFP's . For more specific situations (e.g., particular to a certain type of service such as janitorial services), create boilerplate content that can be easily accessed and used. For unusual circumstances, simply collect language that is used over time so that it can be searched and used at a later date.

Direct Costs: None

Hidden Costs: In addition to the Steering Committee time, allow perhaps 75 hours for someone in Finance to research available models and work on changing the culture.

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3. Provide education and training on sustainability



Focus quarterly brown-bag presentations on sustainability goals—The City already offers brown bag sessions. We recommend setting a theme for each quarter based on the City-wide goals (for example, sessions might focus on energy awareness, how to reduce fuel use, tools to reduce paper use). Supplement this with information in the "Read and Recycle" newsletter and other internal communication devices.



Document existing projects (e.g., green buildings)—For buildings like the Walnut Fire Station and the Madison building remodel, document the sustainable features and lessons learned. The City could involve the architect or project manager and a student intern to write a case study and perhaps also develop signage so that visitors become educated as well. Post the case study on the City's website. This could become a tool to help educate employees about their building and also provide a guide for tours. Since the Fire Station has a community center that the public uses, it would be especially useful to provide signage or other educational materials there.



Embed sustainability into the new employee orientation and other regular employee training and meetings—All employees should receive some basic level training on the City's sustainability policy, the business case for pursuing it, the goals, and sustainability concepts. Jane Lubchenko at OSU is considered an expert on climate change and helped write the UN Millennium Ecosystem Assessment report; perhaps she could do an all-employee kick-off meeting. Corvallis will also want to embed some

Training Resources

Northwest Earth Institute has a number of good discussion courses that employees can facilitate as brown bag sessions. In particular, see "Choices for Sustainable Living"

The Natural Step also has a Study Circles program.

AXIS publishes an inexpensive primer for employees on sustainability called *Making Sense of Sustainability* (part of the Sustainability Series™ (www.pacifier.com/~axis/sust_series.html)). This booklet explains both the Three E's and The Natural Step System conditions, and it includes short exercises that could easily be done in staff meetings.

Cascadia Region Green Building Council
www.cascadiagbc.org

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amount of training on sustainability into its new employee orientation.



Update City website to highlight sustainability actions—The City can begin to take credit for the actions they have taken, especially since many projects resulted in expected cost savings. The City may want to begin with updating the Intranet to facilitate cross-departmental communication. We recommend changing the public website after the City Manager's Office surveys the public on sustainability as part of the next Citizen's Attitude Survey.

Direct Costs: \$6,000-12,000 for training design and delivery, presenters, if needed. \$6000 should be sufficient for a train-the-trainer model; \$12,000 would provide resources for an external consultant to provide half-day training to all employees. This may not need to be in addition to the existing training budget, but instead be made a priority for 2006-7 training.

Hidden Costs: Most of our recommendations simply provide a focus to existing efforts (e.g., brown bags, web maintenance). Documenting the Walnut Fire Station building would require perhaps 24 hours of someone's time at Fire to manage an intern.



4. Formalize recycling efforts

The City already has a robust recycling effort. However, it is dependent upon the passion of individual employees. Formalizing these efforts would recognize those who have done so much already and ensure the programs would continue should any of these employees leave.



Create a policy on recycling (Steering Committee)—Take the time to set a policy that requires recycling, specifies what should be recycled, etc.

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Make recycling an official part of people's jobs or a service contract (CMO and Depts.)—Write recycling into the job descriptions or the service contracts to make it an official part of their job.

Direct Costs: None, or the cost of incorporating recycling collection into the janitorial contract.

Hidden Costs: 20 hours to write the policy and take it through the approval process.



5. Focus on water conservation

The City has a water conservation effort that has made good strides, especially regarding Parks and Recreation's irrigation programs. However, for many departments, not much attention has been given to water conservation. Within City operations, water service is not paid for and regular feedback on water use is not given to each of the departments using the service. We recommend broadening the effort with a particular emphasis on such areas as the Aquatic Center that are high water users.



Conduct water audits of facilities—The first step is to do an audit of water uses for all facilities. This is usually a service provided by the water department in many municipalities. Public Works staff are qualified to perform these tasks.



Develop methods to track water use and feedback the information—Measure water use in each of the facilities and develop metrics based on the type of facility, square footage, hours of operation and whether the public uses the

Water Conservation Resources

American Water Works Association www.awwa.org

The EPA Website
<http://www.epa.gov/water/you/chap3.html>

Rebuild America, Save Water and Energy Education program
<http://www.energy.state.or.us/rebuild/rebldhm.htm>

and
<http://egov.oregon.gov/ENERGY/CONS/rebldhm.shtml>

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facility. Develop 3 to 5 indicators that relate amount of water use to each of the metrics. Report these baseline metrics and indicators. Compare to other similar facilities and uses. Set goals and strategies for reducing water consumption.



Create incentives for departments to conserve—We recommend charging departments for water use, even if that ends up being a revenue-neutral activity. This builds in incentives to pay attention to and reduce water use. If this is not practical or possible, find other ways to create conservation awareness and incentives. The Finance Department has already begun a process to document water use at each facility and to share that information with departments.

Direct Costs: None

Hidden Costs: 2-4 hours per facility for water audits; 60 hours to develop methods and feedback information; 40 hours to create and promote incentives for departments to conserve.



6. Focus on waste reduction

Other than recycling, the City has not focused much on formal waste reduction efforts. The following are logical places to begin.



Conduct waste audits—Using readily available resources in the community and/or region, conduct waste audits. This should include a waste analysis (i.e., identifying what is in the waste stream that might be recycled, and a categorization of waste by volume or weight)



Develop systems to collect data on waste generated and material diverted—In addition to the improvements we

Resources

Information about recycling and waste reduction can be found at the Oregon DEQ website

www.deq.state.or.us/wmc/solwaste/rs.w.htm.

Additionally, DEQ provides grants to local governments on various recycling and waste reduction efforts

(www.deq.state.or.us/wmc/solwaste/grants/grants.html)

Portland State University's Community Environmental Services Program can provide a wide range of field data collection services in support of local governments, institutions, and businesses.

www.pdx.edu/ces

Grassroots Recycling Network
(www.grrn.org)

Pollution Prevention Resource Center
(www.pprc.org)

A how-to booklet called Approaching Zero Waste is available from the Zero Waste Alliance.

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recommended for the City's recycling efforts, we also recommend developing systems for tracking waste and recycling quantities and giving feedback to those who generate waste. This should also include seeking potential markets for waste streams. A number of organizations have already achieved 'zero waste to landfill' so it is not an impossible goal.

Direct Costs: The costs for a waste audit by PSU (or another university) is on the order of \$2,000 depending on the number and extent of the audits. Data collection may be able to be done by the City's waste hauler.

Hidden Costs: City staff would likely want to oversee the waste audits (assume 3 staff for 6 hours = 18 hours); an internal staff member would be needed to compile and share the data collected (assume 3 hours per month).



7. Focus on toxics

To date, the City had undertaken different efforts to reduce toxics, most notably the switch from Chlorine gas at Public Works and the Integrated Vegetation and Pest Management program at Parks. Also, most facilities appear to be using Coastwide's "Sustainable Earth Certified" janitorial products; they are an Oregon firm with a line of green cleaning products. However, a lot more could be done to reduce risk and exposures.



Develop chemical management program for procuring, inventorying, and tracking products containing potentially harmful chemicals—Using the results of the recommended pilot project completed by Public Works and Parks (see description under Public Works), expand this program City-wide.



Develop system for maintaining MSDSs City-wide—Part of this program should include a better system for the City overall to manage their Material Safety Data Sheets. Some departments meet OSHA requirements for MSDSs that they

Resources

Zero Waste Alliance has a Chemical Assessment and Rating System (CARS) that evaluates chemicals against a variety of criteria (carcinogens, ozone depleters, etc.) to help identify the products (containing chemicals) of greatest concern. This is often used in conjunction with a chemical inventory or development of a toxics management program.

The Coatings Guide is a series of databases designed to help painters and coatings users find less-toxic products.

<http://cage.rti.org>

METRO in Portland sells recycled paint.

Rodda has a line of low-VOC paints called Horizon.

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be accessible and current. However, other departments were audited by the safety team and were found to be lacking.



Incorporate toxics audits into the safety audits for all departments.—At least in one department, the safety committee is doing MSDS audits to ensure that they are readily available and current. This practice could be expanded to include chemical inventory audits throughout the organization.

Direct Costs: \$7,000 for hiring consultants to assess products with chemicals of concern, assist in investigating alternatives and facilitate development of procedures for procuring, inventorying, tracking and managing MSDSs (assumes that the pilot project has been conducted).

Hidden Costs: Some hours would be put in by City staff in the development of the procedures (assume 6 staff for 20 hours each). An ongoing staff commitment of between 2-10 hours per month may be needed to maintain these records.



8. Formalize and deploy a green building policy

Energy-efficiency and transportation are the most developed programs in green building practices for the City. There are several reasons for this. The technology and best practices in these areas have been around much longer than Green Building as an integrated approach. The US Green Building Council (USGBC) was formed in 1993 and LEED certification for buildings has been available since 1998. There are policies and goals in place and the practices to improve these areas are embedded in the City operations. The City has more experience or more of a "track record" in demonstrating the benefits of these types of practices. We see the following as logical next steps.



Write a green building policy— Assuming the City wants to adopt "Green Building" as a sustainability

Resources

US Green Building Council
www.usgbc.org

Cascadia Region Green Building Council
www.cascadiagbc.org

The Energy Trust of Oregon is a public-purpose organization dedicated to energy efficiency and renewable energy generation
www.energytrust.org

Northwest Energy Efficiency Council offers training for facilities operation and maintenance staff – Building Operator Certification
<http://www.thebec.info>

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goal, we recommend creating a policy and setting goals. Currently the Council policy is to endeavor to meet the LEED standards in new construction and remodels, but not to go to the extent and expense of LEED certification of a building. The disadvantage in this approach is that there is no third-party verification of the “green” measures implemented within the building. The City also misses out on the lessons associated with the process as well as the marketing and communication benefits that US Green Building Council provides with LEED certification. However, certification does cost more. Depending on the size of the project, the premium may range from 5-20%. So the City will need to evaluate the costs and benefits.

We recommend that whatever approach the City takes in adopting “Green Building” as a sustainability goal, it include a process for verifying the measures implemented and the building performance results. Analyze results and write case studies on projects to share information and promote the benefits of green building throughout the City and the community. We also recommend maintaining your membership in the US Green Building Council and providing on-going training for facility managers, planners, capital project managers and other design and construction staff in the area of high performance buildings. This will ensure the City is creating capacity and expertise in this very important area. Goals should be set with an eye to the climate change and energy goals set out by the State of Oregon. See our long-term recommendations in Appendix F for more information on this issue.



Evaluate LEED-EB—With the experience the City has gained with new construction, we recommend that the City also evaluate LEED for Existing Buildings. The City may or may not want to become certified; however, examining LEED-EB is likely to result in a number of insights that could be incorporated into the operations and maintenance manual. LEED-EB is intended to ensure the operation, maintenance and remodels maintain and extend the benefits of green building.

Since LEED-EB is relatively new, the local community has a couple of groups that provide networking opportunities for local builders, architects and designers. These professionals get together regularly to share what they are learning about green building. City staff involved with facilities could attend these meetings both to learn and promote the good work the City is doing.

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Develop Building Operation and Maintenance Procedure Manual—The City has gained a successful track record through the implementation of many energy efficiency upgrades, including lighting, HVAC and various other projects. The practice of routine building operation and maintenance can also save money and energy in facilities by improving the energy efficiency of heating and cooling systems. A preventive maintenance program can improve the building environment and prolong equipment life. Currently, maintenance technicians are responsible for assigned buildings to ensure routine and preventive maintenance tasks are completed on a regularly basis. We recommend development of an O&M procedure manual to integrate these best practices into the City operations.



Investigate Building Operator Certification—We also recommend that the City evaluate Building Operator Certification (BOC) training for facility and maintenance staff. This would help to build capacity within the City for effective operation and maintenance of buildings. BOC operators receive cross training in a broad array of building systems. This training increases capacity to identify and implement energy savings projects that result in lower operating costs and improved comfort in the facility.

Direct Costs: Suggest budgeting \$5,000 for consulting support, training/conferences and perhaps also USGBC membership (\$500 annual dues) if desired. NOTE: no chapter of the USGBC organization exists in Corvallis, so staff may prefer to attend local meetings with the Sustainable Building Network. Building Operator Certification training costs \$1275 and involves 56 hours of training over a 7 month period. The Energy Trust offers a \$600 scholarship for participants in PGE, NW Natural or Pacificorp service areas, bringing your cost down to \$675. The consulting fees are to assist with writing a green building policy to include LEED-EB and a plan for implementation.

Hidden Costs: Staff time to attend conferences, meetings and workshops and to work on the policy.

Department-specific recommendations

There are so many opportunities for ways that each department can become more sustainable. Here are a few we identified during the limited time we had to audit eight departments. Many of these recommendations set the foundation for the City employees to generate their own ideas for improvement, now and into the future. These recommendations will help ensure that these ideas are set into a context: What is the City's policy? What are the City's biggest impacts? What will get the City the biggest benefit for the least cost?

City Manager's Office



Pilot efforts to embed sustainability into performance reviews and job descriptions—In 2007, we recommend the City embed sustainability in all employees' performance reviews. This is also an opportunity to consider how to embed sustainability into job descriptions as well. To prepare for that, we recommend that the City Manager pilot an effort at the management level in 2006, from the City Manager down to the Department Directors' direct reports. See more comments under City-wide efforts. (Hidden costs: training for supervisors on how to counsel staff on sustainability.)



Add sustainability as a category in the Administrative Policy Manual and Employee Handbook—Add a tab in the Manual to accommodate sustainability-specific policies. Include a section in the Employee Handbook about sustainability. (Direct costs: None, Hidden costs: 20 hours to write content for the Employee Handbook)



Develop a system for incorporating sustainability into all policy reviews—Policies come up for review on a regular schedule. We recommend developing a checklist of questions that could be used to assess each policy through the lens of sustainability. (Direct costs: None, Hidden costs: Two hours per policy)

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Adopt a paperless Council Packet—Currently the Council and department directors receive a packet of information for each meeting. In this approach, directors could print out only those sections they will need in the meeting or bring their laptops. Switching to paperless not only reduces the impact on the environment and administrative costs; it also models behaviors in a public forum. We do not recommend taking this action if it requires purchasing a number of new computers as the life cycle impacts of the computers probably out-weighs the impacts of the paper. (Direct costs: None, unless additional laptops are needed before normal replacement would occur. Hidden costs: Time to scan documents, reformat so they are easy to read on the screen. Savings: Cost of paper)



Survey citizens about sustainability—When Corvallis next sends out its Citizen's Attitude Survey, we recommend including questions that relate to sustainability to gauge the degree of understanding and support in the community for sustainability-related efforts.

Community Development



Investigate a paperless packet for the Planning Commission—Use more electronic tools for Planning Commission documents and online zoning maps. (Direct and hidden costs are similar to the Council Packet above.)



Cross-train inspectors to multi-task—As is the case in many municipalities, different inspectors inspect different parts of construction jobs. If the City can cross-train inspectors so that they can do double-duty, the City can reduce trips and costs associated with transportation while also improving customer service to architects, developers and builders. (Hidden costs: Time to train inspectors.)

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Investigate wireless links to submit inspector data—Similarly, if the inspectors can submit their inspection reports remotely, they can save time and reduce trips back to the office. (Direct costs: Several technological options are being investigated. Wi-Fi, likely the most expensive option, is estimated to cost \$1.5 million for City-wide Wi-Fi network but may provide other benefits.)



Choose fuel efficient vehicles and/or ones that can use alternative fuels—As the department replaces vehicles, choose ones that are most fuel-efficient (e.g., hybrids). Also investigate E-85 vehicles which can run on ethanol and also diesels which can run on biodiesel. There are a number of efforts underway in the State that should make these fuels more available in the future. Note: These vehicles sometimes sell at a premium over comparable models. However, tax breaks and other incentives can often make the price comparable. Where the City doesn't directly benefit from these incentives, they may qualify for pass-through credits (e.g., through the Oregon Dept. of Energy's BETC program). At present, the resale value of hybrids and other fuel-efficient vehicles is holding up much better than other models. (Direct costs: Beyond the cost of the vehicles, there may be additional costs associated for E-85 for providing fueling stations and for hybrids, replacing and recycling the batteries. The most recent information on the Toyota website indicates that the Prius batteries are proving to be good for up to 180,000 miles and are covered under warranty for up to 100,000 miles.)

Finance



Develop a centralized system for managing the end-of-life for computers—There are currently a wide-ranging set of practices in the City for handling electronic waste and outdated computers. We recommend the City develop a centralized system for managing this problem. This may take the form of changes to purchasing (i.e., purchasing from vendors that take back their product), service agreements (leasing computers), contracting for recycling and/or writing a policy for end-of-life management. (Hidden costs: Staff time to work with vendors to take back

Resources

Oregon DEQ's website includes a factsheet for managing electronic waste and a directory of electronics recyclers
www.deq.state.or.us/wmc/Electronics/

EPA's website
www.epa.gov/epaoswer/hazwaste/recycle/ecycling/index.htm

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products and for writing a policy—60 hours)



Continue installing radio-based water meters—

Radio-based water meters could significantly reduce the costs and impacts associated with meter reading. The City is already installing these but does not yet have 'critical mass.'



Switch to electronic billing and payments—

Make electronic billing and payments an option. A large percentage of the City's customers will still require paper invoices for the foreseeable future. In those situations, switch to 100% recycled content. (Direct costs: This is already planned by Finance. Emailing invoices will be at no additional cost. Potential for increased credit card fees may offset some of the postage and paper savings.)



Update vehicles and equipment replacement

schedules for all City services to take into account sustainability impacts and cost savings—Replace equipment only when it is needed based on maintenance records, environmental impacts, and business need. (Hidden costs: There is a potential for additional maintenance and equipment down-time as equipment ages which should be carefully monitored so as not to offset the cost savings.)

Resources

Tualatin Valley Water District is using New Leaf Paper's New Leaf Opaque for billing. It is 100% Post Consumer

Waste. Local rep. is Harry Bondareff at 503-963-9393. They purchased rolls of stock for printing on a web press and at the quantities they are buying, the stock cost about 20% more. This cost could be offset by emailing some bills. They experienced no problems. They also have been working on online payments.

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Fire



Investigate commissioning of the new fire station green building to make sure it is operating as intended—Building commissioning is the process of verifying that the HVAC system is designed and installed correctly, and that the occupant has sufficient training and documentation to operate the system. Many are surprised to find out how rarely this is the case! Significant energy savings can be discovered in this process. According to the Oregon Department of Energy, a building that has been commissioned costs 8% - 20% less to operate than one that has not been commissioned. Once commissioned the facility operates as the original design intended and operating costs are reduced as systems are operating at maximum efficiency.

Direct Costs: Commissioning usually costs around \$0.65 per square foot but this may vary based on building size and complexity. Budget \$6,000-10,000



Partner with a student and/or the architect to write a case study on the building—We found a significant lack of knowledge about the existing building and its features. The City is missing an opportunity to have employees feel proud about their building and also to know how best to live within it. Write a case study on the building (perhaps using an intern). Post information about the sustainable measures and strategies in the building and especially in the public meeting area. Extend the lessons learned to other buildings. (Hidden cost: 24 hours of staff time to manage the intern.)



Consolidate trips for errands to save fuel—Currently this happens on an ad hoc basis. Make this a formalized process.

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Pilot video-conferencing for training to reduce travel—The Fire Department does a significant amount of training. Investigate and experiment with other methods that reduce the need for people to travel to training. Video conferencing is one such method. Distance learning is another. Right now, the Fire Department puts on several trainings a month so it is conceivable that they could save approximately 500 gallons of diesel or \$1250 per year. Such a facility would also have the potential to be used for other meetings, expanding its usefulness to others in the City and the community as a whole. It might be possible to offset the cost of the system by charging the community for its use. (Hidden costs: Staff time to investigate alternatives—up to 100 hours.)

Resources

Hewlett-Packard has a state-of-the-art video conferencing facility. It might be possible to rent their facility for meetings requiring complex technology. Or use it to test the feasibility before investing in your own equipment.

Library



Leverage the library as a wireless hub — The Library is implementing Wi-Fi to reduce the need for library-owned workstations. This could also serve the purpose of making the Library even more of a meeting place, enhancing the social benefits of the facility. To that end, the Library could allow concessionaires to operate in or near the building and provide meeting space similar to a coffee shop, an area where people can chat. This could provide a stream of income for the Library or the City. This may enhance the social capital in Corvallis by enhancing and facilitating networks. In addition, the Library could offer events around certain local issues or opportunities (e.g., green fairs, speakers on tolerance and diversity, ethnic fairs, dialogues on local or world issues) The Library may also want to look into the new \$100 computers designed at MIT (intended for the Third World). It might be possible to purchase a handful and make them available to community members who don't have access to computers now, either through renting or checking them out just as the Library does books.

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Team with schools to exchange unneeded supplies—The Library already partners with the schools. This might be extended. There may be other items used within the City that could benefit the schools. For example, in the Public Works area where signs are made, there are left-over colorful mylar sheets that teachers could use for arts and crafts projects. Some departments store used binders. The school might have use for some of the books that are currently being recycled. Out of date or broken equipment could be used by the school as a learning tool. Perhaps it would be useful to take a few teachers through each of the City's facilities to familiarize them with the waste streams and explore opportunities to share materials and divert materials from the waste stream. While some of these opportunities reside in other departments, the Library is the most logical liaison to the schools. (Hidden costs: Staff time to act as a liaison with school representatives and manage the program—100 hours.)

Parks and Recreation



Pursue Salmon Safe certification—The Parks and Recreation department has already made good progress with their integrated pest management program. We believe they are ready to go to the next level. Pursuing Salmon Safe Certification would prompt Parks and Recreation to do a thorough housecleaning of existing chemical products (e.g., old paints, 2, 4-D, etc) and reduce the use of toxics even further. The Soils for Salmon program developed may provide an alternative to using herbicides to prepare ground for planting grass and more ideas about what to do with the compost. Partner with Public Works to implement a toxics management program (see more information under Public Works). (Hidden costs: Staff time to pursue certification and go through the approval process—300 hours.)

Resources

Salmon Safe –
www.salmonsafe.org

Last year the City of Portland Parks and Rec. had all the City Parks certified as Salmon Safe
www.salmonsafe.org/urban/parks.cfm . The City of Salem is currently in the process of getting Salmon Safe certification.

Soils for Salmon
(www.soilsforsalmonoregon.org)

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Refine an operations and maintenance manual to provide guidance for all site operations and maintenance activities— Parks has approximately 1,439 acres of which 1,100 acres are designated open space lands. Many of these park facilities are adjacent to or along streams where park development and operation and maintenance activities can impact the quality of Chinook salmon habitat and water quality. Operations and maintenance activities can have some of the most direct impacts on fish habitat.

Parks has a Facilities Plan, Owens Farm Management Plan, and Resource Management Plans for site-specific parks and open spaces. There is not one comprehensive operations plan for the whole system. Historically, Parks has developed plans for new additions to the system and integrated Best Management Practices into operations as regulations, community preferences and budget framework has allowed.

The benefit to preparing an O&M Manual to provide guidance for the entire parks system is that it would be site- and season-specific and provide guidance for all site operations and maintenance activities (e.g., vegetation maintenance, mowing, fertilizer and herbicide/pesticide applications). All necessary activities would be documented and no decisions would be left to judgment of the individual performing the task. It seems as though much of the work has been completed in some of the above mentioned documents. It would be a matter of reviewing the documents to see what areas of O&M are missing, completing those areas and training staff on the use of the guidance manual. This is another example of embedding best practices into organizational operations.

Direct Costs: None. This work can be done in-house.

Hidden Costs: 100 hours of staff time to complete this task.



Find alternative to painting ball field lines—Currently Parks uses latex paint to mark ball field lines. While this is preferable to some practices, it still involves applying what is a toxic product to the fields. Some parks in other communities provide chalking machines and make this a task for volunteers. The lime in chalk is what many apply to their lawns to reduce the acidity of Pacific Northwest soils. This is one option the department can consider. (Hidden costs: Potential for increased material use and labor and reduced customer satisfaction)

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Have non-profits in the community apply for the right to manage recyclables in the parks and keep the proceeds—Currently a lot of recyclable materials are being tossed in the trash and a lot of trash is contaminating the recyclables (rendering the recyclables garbage). The money associated with these returns is also significant. Find a way to capture these benefits and divert recyclable materials from the trash. (Direct costs: Depending upon the solutions chosen, there may be costs associated with new or more bins, signage and more public education. Hidden costs: Staff time to investigate and test alternatives.)



Complete a study in the Aquatic Center for energy upgrades and UV water treatment—The Aquatic Center has investigated a number of energy saving options to reduce expenses.

- Pool covers to reduce heat loss
- Solar thermal hot water system to preheat water for the boilers
- Ultra-violet (UV) treatment to reduce chemicals used to treat the water.
- Variable frequency drive pumps for HVAC system and pool filtration system
- Energy management software

At this point the Energy Trust of Oregon has approved the pool cover, 3 VFD pumps and Energy Management Software as eligible for financial incentives in 2006. The solar thermal hot water system is not eligible for ETO financial incentives because the Aquatic Center is on an interruptible rate schedule with NW Natural Gas and thus does not pay into the public purpose funds. However, there are significant energy savings associated with the solar thermal hot water system. The Business Energy Tax Credit would be available through the Oregon Department of Energy. There may also be an opportunity to pursue financial assistance through the Solar for Schools program. The City would need to find a sponsor for the project and also have a school that is willing to integrate solar education into their curriculum around this project. Solar Creek and Linus Pauling Middle School are potential partners. Once the project has a sponsor, the City could apply for a grant to Bonneville

Resources

Note: Nike uses ozone to treat their pool water. This may be another alternative to UV.

Bonneville Environmental Foundation Solar 4R Schools program

<http://www.b-e-f.org/grants/guide.shtml>

Oregon Department of Energy Business Energy Tax Credit for Solar Energy Projects
<http://egov.oregon.gov/ENERGY/RENEW/Solar/Support.shtml>

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Environmental Foundation. We recommend taking a systems approach to evaluating the opportunities and resources available and create a plan. (Direct Costs: Based on the analysis of the project options, the capital projects with the best cost/benefit add up to \$80,000. If all the projects are implemented, the total cost is estimated to be \$373,000. It will be important to assess the payback periods of these other projects to determine whether they are worth doing. Hidden Costs: Staff time to research/assess options and install the new equipment.)

Police



Pilot test washable uniforms to eliminate dry cleaning—Currently the Police Department dry-cleans the officers' uniforms as a negotiated benefit. Typically dry cleaning is done with perchloroethylene, a possible carcinogen. The Police Department had been investigating greener dry cleaning services but they cost substantially more. We recommend that the Department purchase washable uniforms to eliminate the toxic chemicals and costs associated with dry cleaning. The Police have the option of laundering the garments. However, we suggest the City consider renegotiating this portion of the union contract so that the funds that have been used for dry cleaning could be redeployed to more mission-critical services once the officers can wash their uniforms with the rest of their family laundry.



Consolidate refrigerators and buy an Energy Star model instead—Currently the Department has a number of old, energy inefficient refrigerators, some of which may have been brought in by employees. The technology around refrigerators has improved a lot in the last ten years. We recommend recycling the existing refrigerators and purchasing one or a small number of Energy Star models. This expense should pay back in energy savings. If we assume the 4 older ones use 1000kWh per year each, replacing them with one new fridge that uses 500 kWh per year is a savings of 3500 kWh per year. Assuming 10 cents per kWh, that is \$350 savings per year. There is also a \$50 to \$70 tax credit available. (Budget: \$500-800; payback period approx. 2-3 years.)

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Purchase fuel-efficient non-emergency vehicles and/or ones that can run on alternative fuels— As the City replaces vehicles, choose ones that are most fuel-efficient (e.g., hybrids). Also investigate E-85 vehicles which can run on ethanol and also diesels which can run on biodiesel. There are a number of efforts underway in the State that should make these fuels more available in the future. Note: These vehicles sometimes sell at a premium over comparable models. However, tax breaks and other incentives can often make the price comparable. Where the City doesn't directly benefit from these incentives, they may qualify for pass-through credits (e.g., through the Oregon Dept. of Energy's BETC program). At present, the resale value of hybrids and other fuel-efficient vehicles is holding up much better than other models. (Costs are similar to the same recommendation under Community Development.)

Public Works

Public Works has done an excellent job seeking out energy saving opportunities and has, in their wastewater treatment center and lab, found replacements for particularly toxic products. We believe the next step for Public Works is to reduce toxics in the rest of their operation. Please see the resources listed under City-wide action #7 earlier in this report. They are also poised to pilot more rigorous sustainability management practices.



Pilot a fully integrated sustainability system—Public Works is poised to test out more sophisticated methods of managing sustainability efforts. We'd like to see Public Works develop and test a fully integrated sustainability management system. A first logical step would be to use the input-output/bubble diagram in each of the 13 work groups to raise sustainability awareness and harvest new improvement ideas. Then define a clear and compelling sustainable vision for the department. Another important step is internal assessment audits. It might make sense to train the existing safety committee to do this work. This experience could be used to inform decisions by the Sustainability Steering Committee as the City enhances the SMS in the third year.

Direct Costs: \$5,000 for consulting support to customize a sustainability management system.

Hidden Costs: Staff time to participate in the design and deployment of the system

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Pursue EcoLogical Certification in the vehicle maintenance shop—The maintenance shop is pursuing some environmental practices but is missing opportunities to improve. For example, it appears they are not using the safer antifreeze products on the market. The EcoLogical certification has a program for auto repair shops. We recommend that this department pursue this certification as a way to improve their practices. (Hidden costs: Staff time to pursue certification-60 hours.)

EcoLogical Certification

The EcoLogical site has links to the following useful documents and provides information about certification

<http://www.ecobiz.org/automain.htm>

Download the Keep Your Shop In Tune manual for best practices

See also A Sustainable Vision for the Automotive Services Industry



Partner with Parks to develop and pilot a chemical management program—Public Works maintenance and the carpenter shop both could benefit from a housecleaning of old and particularly concerning chemical products. We would like to see Public Works partner with Parks and Recreation to pilot a chemical management program. This would include doing a chemical inventory, assessing human health and environmental hazards associated with products in the inventory and investigating alternatives to the products containing chemicals of concern. (For example, a container of toluene, a developmental toxicant, was found in the carpenter's shop and the 'Rat Room' most likely also contains products for which there are safer alternatives.) The chemical management program should also include systems for procuring, inventorying, tracking and managing Material Safety Data Sheets for products containing chemicals. Public Works already appears to have a good system for managing Material Safety Data Sheets and uses their safety committee to audit MSDSs. Once tested, this chemical management system could be extended to other departments as appropriate.

Direct Costs: Much of this could be done in-house, If outside consultants are used, allocate \$10,000 for assessing chemicals of concern, assisting in investigating alternatives and facilitating development of procedures for procuring, inventorying, tracking and managing MSDSs.

Hidden Costs: Estimate 100 hours of staff time if done in house for inventorying and researching alternatives.

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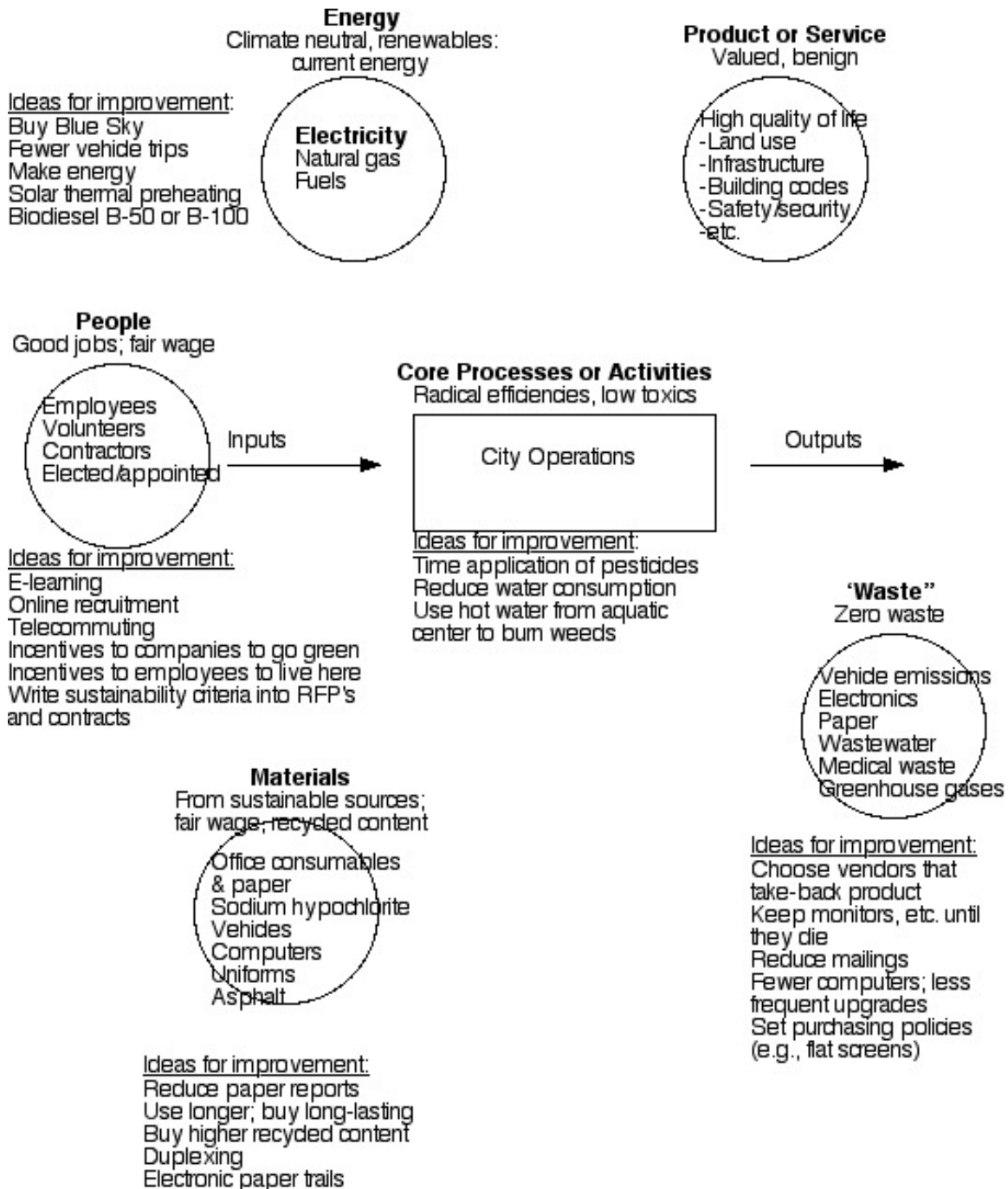
Improve access to recycling bins and audit the use of them periodically—

On our walk-through, we found a number of places where recycled materials had been placed in trashcans, in part because no recycling bins were available. We recommend adding more recycling bins and audit their contents and that of the trashcans periodically. (Costs: None. These bins are usually free from the hauler.)

Appendix A—Major Sustainability Impacts and Opportunities

City-wide Impacts

Using a process (bubble) diagram, the Steering Committee analyzed its biggest impacts and also possible actions. The following chart summarizes their results.



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Priorities by Department (brainstormed in Steering Committee)

After each department completed a bubble diagram for their own operations, they identified what they felt were their highest impacts and possible actions that could be taken to offset them. The following chart summarizes their ideas for action.

Department	Highest Impacts	Project Ideas from Steering Committee
City-Wide	Paper use Transportation/Fuel Use Building Energy Use	
Finance	Paper use <ul style="list-style-type: none"> Internally created Asked to have created Fuel – Water meter reading	Electronic bill Electronic payments Paperless files/back up for financial records Radio-based meters, energy-efficiency vehicles
Fire	# of non-fire related trips <ul style="list-style-type: none"> Vehicle use Fuel emissions Replacement of materials based on schedule rather than need	Video training Consolidate tasks – make standard process Don't be schedule-driven for capital items, purchase higher quality items that last longer and replace when necessary, not before.
City Manager's Office	Paper – buy thru state price agreement; don't know where it is coming from, quality, packaging, etc. Employees—Not all understand sustainability	Electronic alternatives; online applications for jobs Training and education Implement wellness program enhancements
Library	Book handling: repairs, disposal Use of paper	Dust jacket elimination or alternative to mylar, packaging of CDs, educate patrons Provide Wireless internet connection, reduce # of computers, community service
Parks	Water use Natural gas use Diesel use	Aquatic Center: <ul style="list-style-type: none"> Variable speed fans Cover pools Turn off fans, humidity sensor Solar water, Heat recovery

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Community Development	<p>Paper</p> <p>Vehicle emissions</p>	<p>Electronic alternatives for internal and external paper use.</p> <p>Planning commission electronic docs.</p> <p>On-line zoning maps</p> <p>Fuel efficient vehicles</p> <p>Cross-train inspectors to multi task</p> <p>Remote wireless link – reduce travel</p>
Police	<p>Fuel use</p> <p>Emissions</p> <p>Paper</p>	<p>Fuel efficient non-emergency vehicles</p> <p>Increase recycled content in paper</p>
Public Works	<p>High GHG emissions</p> <p>Energy Use</p> <p>Waste water</p>	<p>Hybrid buses or biodiesel BD-100 in transit</p> <p>Photovoltaic solar for building</p> <p>Solar water – preheat for boilers.</p> <p>Wind power generation</p> <p>Zero discharge of water from WWTP</p> <p>Conduct emissions testing on vehicles to inform a decision to replace.</p>

Appendix B—Management Systems

Annual Process for Managing Sustainability

We were not able to create a complete design for a sustainability management system for Corvallis and the Steering Committee. However, we did give some thought as to how sustainability could be embedded in existing systems.

Existing Systems

Corvallis has the following existing systems which can be easily adapted to reinforce and support sustainability:

- Strategic planning
- Annual budgeting
- Training programs
- Safety programs
- Standard operating procedures
- New employee orientation
- Preventive maintenance process
- Routine Meetings
- Financial Audits
- Performance reviews
- Purchasing procedures

Budgeting

Oct-Dec	Jan-June	July-June	July-Sept
Plan projects	Assign roles, responsibilities, resources	Implement and perform periodic checks on progress	Strategic review with respect to vision, policy, sustainable goals
New project ideas	Formalize and adopt in budget process	Quarterly performance and progress reports to CMO, Department heads and Council	Review results. Prepare Sustainability Report

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Performance Reviews

At the Annual Review

- **Plan** for next year: set goals with measurable targets
- Fill out forms

During the year

- **Do** the plan
- **Meet** Goals

At the following Annual Review

- **Check** on progress with respect to plan
- **Strategic review** of how to move forward
- **Plan** for next year

Project Plan for the Steering Committee

In the second Steering Committee, we developed a year-long project plan, assigning tasks and responsibilities implied by our recommendations to timeframes.

Month	Steering Committee	Departments	Sustainability Coordinator
December, 2005		Integrate sustainability into City policies as they come up for review (ongoing) Prepare/review budget recommendations for 2006/7 for City-wide and departmental recommendations	
January, 2006	Report on budget for sustainability, City-wide and departmental projects Define roles and responsibilities of City staff regarding sustainability Refine City-wide goals	Share the 3-4 City-wide short term milestones (energy, fuel, paper, perhaps water). Solicit reaction to the milestones and ideas for how to achieve them	
February	Review Phase 1 & 2 reports and adjust priorities as appropriate Hone business case for sustainability		

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March	Departments report to Steering Committee on short-term milestones and departmental objectives		
April			
May	Upgrade Annual Sustainability Report format. Include metrics		
June	Check progress of departmental projects	Work on sustainable purchasing materials (Finance)	
July	Develop cost/benefit tools for sustainable purchasing Review boilerplate language for contracts and RFPs Review sustainable purchasing policy draft Finalize sustainable end-point goals and policy framework for Council. Recommend edits to Sustainability Policy; get Council feedback	Draft changes to performance reviews to integrate sustainability (CMO)	
August	Identify projects/actions needing to be documented (e.g., green buildings) Review recommendations about how to integrate sustainability into performance reviews		
September	Develop list of sustainability resources (internal and external) Check progress of departmental projects Present Sustainability Report to Council		Provide sustainability training and awareness for employees Design and schedule sustainability brownbag program
October			Make recycling an official job function; draft policy
November	Update department business plans Review recycling policy		Incorporate sustainability into employee handbook and new employee orientation Update website to highlight sustainability
December, 2006	Conduct strategic review with City Manager Reassess the structure, membership and operation of the Steering Committee		

Sustainable End-Points

Defining clear, long-term sustainable end-points, is a key to generating excitement and radical improvement. Even if it is not at all clear how the City might achieve these goals, it is important to set these audacious but necessary targets. The Steering Committee examined sustainable goals from a number of different organizations to see if some might provide a basis for the City's own sustainable end-points. A preliminary brainstormed list is provided below. Please also see the discussion on Frameworks in Appendix C for more information about what types of metrics the City would want to include in the policy and sustainability reports.

- Positive increase in native biodiversity by 2025.
- 100% green energy by 2020.
- Eliminate waste by 2020.
- Zero discharge of wastewater to Willamette by 2025.
- Zero toxic waste by 2025.
- Gold LEED standard for all new City buildings by 2011.

Note that all these are predominately environmental in nature. If the City adopts the triple bottom line as its framework, similar sustainable goals will need to be set for social and economic areas as well.

Appendix C—Framework for Sustainable Corvallis

The Steering Committee expressed an interest in evaluating the existing Sustainability Policy. We agree that there are some difficulties with the existing policy and that at some point, the Council may want to improve it. In the Steering Committee meetings, we presented several different sustainability frameworks commonly in use and the Steering Committee appeared to think that the triple bottom line (social, economic, environment) might be a better framework for their use. Unfortunately, there is no perfect framework; they all have their pros and cons. Together, we wrestled with several options and at this point, no decision has been made. We encourage the Steering Committee to continue this dialog until they find a framework that can be reflected in the policy, the sustainability metrics, goal areas, decision tools, and the annual sustainability report. The City will want to choose a framework that they think best:

- Provides a shared and useful mental model
- Ensures they are working on all necessary sustainability areas
- Has categories that are mutually exclusive (although interconnected)

We offered five different frameworks, each based on the triple bottom line but combining it with other structures (e.g., the existing policy areas, The Natural Step, Santa Monica's framework). The three that the Steering Committee preferred are shown below with our comments about how to adapt them. The trade-offs are between being simple to remember versus providing adequate guidance around what to consider.

Triple Bottom Line

Similar to the framework OMSI uses, this option embeds the Natural Step System Conditions into the triple bottom line and emphasizes the internal and external aspects of government work.

	Social	Economic	Environmental <ul style="list-style-type: none">• Greenhouse gases• Toxics• Natural systems
Internal			
External			

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Corvallis may choose simply to use the triple bottom line alone as their basic framework (social, economic and environmental). This framework is more complete than the one used in the existing policy in that it gives equal emphasis to socio-economic issues as to the environment.

In the example above, we turn the triple bottom line into a matrix, distinguishing internal versus external actions. The focus of this assessment was to look at internal issues, however the City acknowledges that they may at some point more actively work on the external. We have found that in some organizations, making this distinction is helpful. For example, without this distinction, 'economy' often becomes a financial or cost measure, ignoring the economic health of the larger community.

If Corvallis chooses the triple bottom line, it would make sense to organize the updated Sustainability Policy around these three areas, providing sustainable end-points or goals for each. It can be relatively easy to develop these for the environmental area, especially if Corvallis embeds The Natural Step System Conditions or equivalent terms. However, it can be much more difficult to determine the sustainable end-points for the social and economic areas, as these are human constructs.

The Steering Committee should recommend a handful of metrics in each of the three triple bottom line areas that provide useful and reliable indicators of the health of that system. Give preference to metrics the City already tracks. For example, if the City has local benchmarks that relate to the Oregon Benchmarks, they may simply choose the most cogent ones from that set. The following chart provides a 'strawdog' version to get the conversation started.

Social	Economic	Environmental
Internal: <ul style="list-style-type: none">• Employee satisfaction rating (from employee survey)• Employee retention External: <ul style="list-style-type: none">• Livability rating from the Citizen's Attitude Survey• Citizen health (perhaps as measured by body burden)• Crime statistics	Internal: <ul style="list-style-type: none">• Financial solvency of the City• Return on investment of projects External: <ul style="list-style-type: none">• Job creation of livable wage jobs• Average income• Percentage of citizens with college and advanced degrees	Internal: <ul style="list-style-type: none">• Greenhouse gases• Toxics• Natural resources External: <ul style="list-style-type: none">• Greenhouse gases• Tons of hazardous substances in use or stored in the community• Ecosystem health

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Once the City has settled on the set of indicators, they should describe measurable, sustainable end-points, set interim goals and begin tracking trend data.

As a practical matter, we think that this triple bottom line framework, with or without the internal/external distinction, can be a useful framework that can be used in the policy, metrics, reports and decision tools. For example, the Policy might have a statement for each of the elements of the triple bottom line, along with associated sustainable end-point goals. The decision tool piloted on the Aquatic Center projects (see Appendix D) is also based on this framework. The annual sustainability report might be organized by goal area. However, we caution that the City should strive for projects that provide benefits across all three triple bottom line areas. This might make it difficult to decide which section to describe departmental actions.

This framework, on its own, is not sufficient to ensure that the City is working on all relevant sustainability areas. It is easy to omit important elements without some sort of checklist or systematic process. However, if the 'bubble diagrams' or a similar process were used annually to examine impacts, set priorities, and choose projects, then the triple bottom line can act as the screen through which project ideas are filtered.

Triple Bottom Line Plus 'Bubble Diagram' Process Categories

This option uses the "bubble diagram" categories, basically a process diagram.

Focus Area	Social	Economic	Environment
Energy (electricity, natural gas, transportation fuels)			
Materials (purchases, water, natural resources)			
Processing (radical efficiencies, low toxics, safe and fair working conditions)			
Products and Services (valued, needed, benign)			
"Waste" (Zero waste: reduce, reuse, recycle, find markets for waste streams)			
Industry (Influence related industry to promote sustainable practices)			
Community (contribute time and resources to solving local problems)			

This option is similar to 1a except that it embeds the elements of the 'bubble diagram' into the framework. As in 1a, the policy would most likely have statements and sustainable end-point goals for each of the three triple bottom line areas (and would not necessarily refer to the focus areas in the rows). However, the annual Sustainability Reports could be organized around the focus areas (energy,

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materials, etc.). This framework is somewhat more complicated than the triple bottom line alone but has the benefit of translating the triple bottom line into categories that make sense in an organizational context. In each focus area, the social, economic and environmental benefits of the actions could be explained. Trend data associated with the sustainable end-point goals might logically fit within some of these focus areas or could be shown in a separate section of the report.

Triple Bottom Line Based on Existing Policy Areas and SCORE

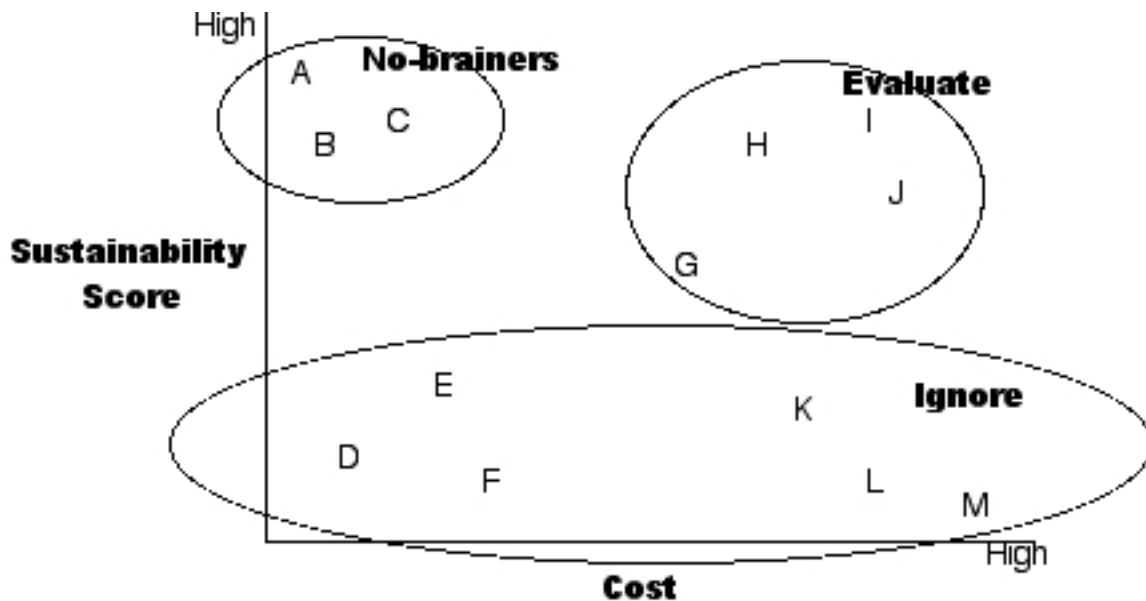
This is the framework we drafted in the first steering committee meeting. It separates internal and external. We have tried to solve some of the overlap problems associated with the existing policy, however, it may still be confusing to use. Are departments to come up with projects in each block? Projects are more likely to have multiple benefits/impacts across the triple bottom line categories.

Focus Area	Social	Economic	Environment
<u>Internal</u>			
Purchasing			
Building (except energy)			
Toxics			
Greenhouse Gas (electricity, natural gas, transportation fuels)			
Solid Waste			
<u>Community - External</u>			
Land Use Policy			
Energy Policy			
Building Codes			
Transportation Policy and Infrastructure			
Diversity/Tolerance			
Peace & Prosperity			

Another option is to work with the existing policy areas, moving Land Use into the external cluster. This option would require less rewriting of the Sustainability Policy; the City would just need to enhance the wording around the socio-economic aspects. However, this option would continue to suffer from some of the problems of the existing policy, which we enumerated in the body of this document.

Appendix D—Aquatic Center Analysis

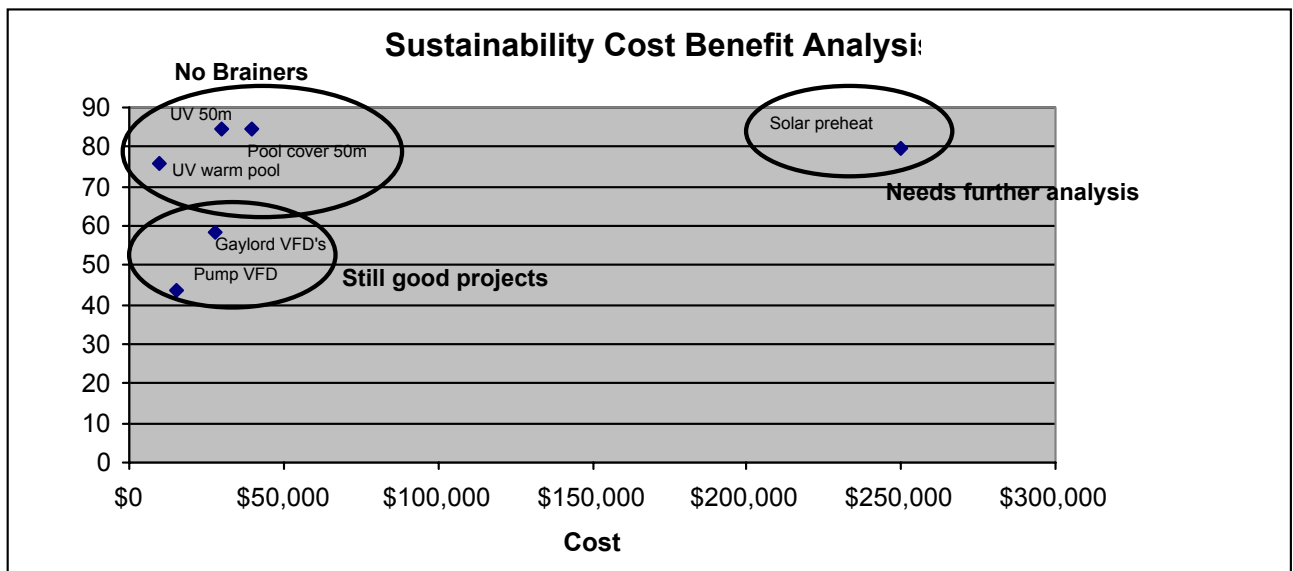
The Aquatic Center has a number of different potential projects. To help determine which ones were of highest value, we helped Public Works and Parks & Rec. develop a method for evaluating capital projects. This involves developing a sustainability score for each project and then graphing that against the costs. This cost-benefit analysis often results in a chart similar to the one below. Projects with low cost but high sustainability benefits are 'no-brainers." Projects with low sustainability benefits drop off the list of possible projects (unless there is some other compelling need to do them such as compliance with regulations or particularly attractive payback periods.) Projects that involve high sustainability benefits but high costs can be evaluated in more detail.



Bruce Hecht and Tony Krieg used this decision tool to assess some of the options for the Aquatic Center. Their results are shown below. Note that in this analysis, the economic sustainability criterion is not cost but instead the potential economic benefits to the community.

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Projects	Weight	UV light to disinfect small pool	UV light for large pool	Pool cover for large pool	Variable frequency drive pump motors for all pools	Air handler variable frequency drive and energy software	Solar water pre-heating
Criteria							
Economic (community benefit)	3	2	2	6	4	5	6
Social	5	8	10	6	4	5	8
Environmental	5						
Energy (renewable, greenhouse gas)	1.67	2	1	10	5	7	9
Toxic (persistence, toxicity)	1.67	9	9	5	1	2	2
Natural Resources (Water, wood, habitat)	1.67	7	7	7	1	2	2
Total Score		76	84.3	84.6	43.6	58.3	79.6
Project Cost		\$10,000	\$40,000	\$30,000	\$15,000	\$28,000	\$250,000



Appendix E—Milestones for City-wide Priorities

The Steering Committee used the backcasting process to identify milestones associated with the near-term City-wide priorities (energy, fuels and paper) as well as water. These should be viewed as preliminary. There was not enough time in the meeting to complete these forms. The impacts should be verified for completeness; the end-points and milestones should be checked to make sure they are reasonable yet sufficient to meet the sustainable state. However this tool can be useful for any priorities the Steering Committee sets.

Building

	Impacts	Sustainable End Point and Year	10 -year milestone	5 year milestone	1 year milestone
Purchase/ Source	Energy consumption Toxins Construction Greenhouse gases	LEED Green power Zero toxins	LEED Gold 50% green power 100% zero toxins	LEED Silver 25% green power 75% toward zero toxins	LEED Endeavor 10% green power 50% toxin free
Use	Employee Customer Land Run-off	Energy efficiency Electronic business Green space Zero run-off	50% reduction in energy use	20% reduction in energy use	Create data and replicate
End of life	Demolition Reuse	Rebuild or reuse			

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Water

	Impacts	Sustainable End Point and Year	10 -year milestone	5 year milestone	1 year milestone
Purchase/ Source	In-stream production, use	Reduce energy Toxic			
Use	Employee Customer Land Run-off	Reduce use of treated water by 50% Use rainwater	Reuse of WWRP effluent for irrigation From audits	Reduce water use by 10-15% Change LDC to allow use of rainwater Install zero water urinals/ toilets Audits	Reduce water use by 5% Maxicom Shower timer Water audits
End of life					

Transportation energy

	Impacts	Sustainable End Point and Year	10 -year milestone	5 year milestone	1 year milestone
Purchase/ Source	Greenhouse gases	No greenhouse gases	50% of diesel vehicles on B-100; 50% of gas vehicles on E-85	All diesel vehicles on B-50 biodiesel; 10% gas vehicles on E-85	
Use		Reduce amount of energy used	Gas and diesel used reduced by 20% compared to 2005	5% reduction in fuel use	
End of life		Zero tailpipe greenhouse gas emissions			

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Paper

	Impacts	Sustainable End Point and Year	10 -year milestone	5 year milestone	1 year milestone
Purchase/ Source	Deforestation	100% recycled fiber Sustainable virgin material Chlorine free Sustainable manufacturing	Fully sustainable	100% recycled content paper Use OR manufacturers	30%-100% recycled content Chlorine free
Use	Waste stream	<3 year life = electronic 100% paperless copies	80% paperless copies	50% paperless copies	10% copies
End of life	Storage Recycle	Storing only what's required. Recycle paper			100% paper recycled.

Appendix F—Longer Term Recommendations (external)

In this project, we were asked to focus only on internal department operations and not the external impacts of the whole community. However, government has a critical role in helping our society move toward sustainability. So we feel it is necessary to include recommendations in this report for longer-term actions that work on these larger issues. These issues can be thought to fall into two general categories:

Externalities—Government, through a host of different ways, make others outside of a governmental agency take certain actions that have associated sustainability impacts. Land use and zoning impacts transportation patterns. Building codes may prevent more sustainable practices (e.g., waterless urinals, grey water use).

Agencies may require paper documents. Corvallis should assess ways to encourage rather than inhibit sustainable actions by others.

Community impacts—Then there are impacts by the community that are not directly tied to any governmental program, policy, regulation or practice. Government is responsible for protecting the “commons,” that which no one owns but many benefit. Corvallis should consider how it can help move the entire community toward sustainability through its leadership, education and outreach, and any other methods at its disposal.

Once Corvallis is farther down the path of sustainability for its internal operations, it will be time to address the community impacts as a whole. Some of the near-term recommendations we have made help prepare the community for this. Using the Citizen's Attitude Survey, brown bags, tours, and education, the City can lay the foundation. The following are several project ideas we'd put at the top of our list of recommendations.



Begin a formal outreach program to the community—Educate the citizens about the actions the City has taken as well as the benefits and lessons learned. The City already has done a little of this, for example, producing a brochure highlighting its sustainability efforts. If the Citizen's Attitude Survey indicates broad support for sustainability, the City can do much more to promote these practices. The City may be able to use the Kids Day for Conservation program as one vehicle.

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Identify priorities for Corvallis as a whole—Just as the City operations has particular threats and opportunities, so does the community as a whole. Using the 2020 plan as a basis, the City should identify significant barriers to achieving that plan and develop metrics to track progress. These priorities should inform the outreach program below.



Integrate sustainability explicitly in the review of Vision 2020 and other public policy documents— Presumably, the City will need to revisit its long-range vision and plans. The City might consider combining an outreach effort on sustainability with an update of the Vision 2020 plan for Corvallis and other public policy documents (e.g., Comprehensive Plan, Land Development Code). This could make the vision more tangible and measurable.



Develop a climate change action plan with measurable goals and tangible actions—Many climatologists associated with the United Nations-sponsored Intergovernmental Panel on Climate Change believe that the Kyoto goals are just a beginning and that we must reduce our greenhouse gases to 75% below 1990 levels. Climate change is arguably the biggest single sustainability issue. Energy efficiency, renewables, carbon sequestration, alternative fuels, waste management, land use practices and carbon offsets are all areas to examine here. Corvallis needs to do its part to achieve the recent energy goals set forth by the legislature and Oregon Department of Energy. Also examine the greenhouse gas strategy created by the governor's advisory group, as well as the Tri-State effort that accompanied their work.

Resources

The City of Portland has been using a software package to track the county's greenhouse gas emissions. They are also the first City/county in the country to have measurable data showing an overall (not just per capita) reduction in greenhouse gases. It would be worth looking at their climate action plan.

ICLEI also has programs related to this goal.

www.iclei.org

See the [Oregon Strategy for Greenhouse Gas](#)

[Reductions: Governor's Advisory Group on Global Warming](#)

www.oregon.gov/ENERGY/GBLWRM/Strategy.shtml

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Launch one 'rethink' task force each year (Steering Committee or management team)—Much of the work done by the City on sustainability is likely to be incremental improvements. However, the opportunities for quantum-leap improvements exist, hidden until people are given time to work on them. Often these inefficiencies occur between departments. So we recommend that the Council and management team select a focus each year, one sustainability-related issue, and form a task force to investigate radical improvements around an audacious goal. These task forces need not take a lot of time, perhaps only a couple half-day meetings. But these could lead to important insights that would guide future action. It will be important for these task forces to be facilitated by someone who both understands sustainability and knows how to unleash creative thinking. It is also important to involve a 'naïve outsider' who can ask the questions the staff itself is too close to the problem to see.

To help explain what is meant by this suggestion, we provide the following example. Imagine that the management team set a focus of reducing storm water. The stated sustainable end-point might be to retain 90% of the precipitation that falls on properties and have it not end up in the wastewater treatment system. (We've seen research to indicate that this goal is appropriate to protect riparian habitat.) A team would be formed to include people relevant to that project. Together they would develop a number of exciting ideas about how this could be done. These innovations would guide the policies and practices of the various relevant departments. This could include changes to street construction, building codes, and the potable water system. (Direct costs: \$4,000 for facilitator if desired. Hidden costs: Staff time to participate in the process.)



Promote green building practices in the community—The City is poised to take its leadership in green building into the community. It might partner with OSU and the US Green Building Council to offer training around these practices. The City could also participate in the Sustainable Building Network, a local peer learning group of architects, designers and contractors supporting sustainable and green building to share the City's experience and learn from others. (Direct costs: This probably requires one dedicated staff person, preferably someone LEED certified.)

There are several local groups focused on green building. One, the Sustainable Building Network meets monthly on the third Thursday of each month at noon at CH2M Hill. City staff could attend these and help to coordinate their efforts.

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Promote the use of renewable power in the community—The City has committed to buy approximately 7% of its power as green power. The Council has expressed interest in encouraging the whole community to reach a goal of 15% green power. Outreach efforts will be necessary to help the community understand green power and its benefits. For example, the City could include promotion of the green power programs and benefits in their normal types of customer communication, such as bill inserts, web site information, or electronic newsletters, on a monthly, quarterly or annual basis.